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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,651	09/29/2004	Thelma G. Manning	2000-021	5650
32170	7590	10/10/2006		EXAMINER
U.S. ARMY TACOM-ARDEC ATTN: AMSTRA-AR-GCL BLDG 3 PICATINNY ARSENAL, NJ 07806-5000				FELTON, AILEEN BAKER
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/711,651	MANNING ET AL.
	Examiner Aileen B. Felton	Art Unit 1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### **Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 29 September 2004.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-5 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-5 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) Paper No(s)/Mail Date: \_\_\_\_\_  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_ 5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamilton et al (US 5602361) in view of Neidert et al (US 6228192) and Manning et al (US 6607618)

Hamilton discloses known gun-type propellants that comprise 76.6 % of 13.25 % nitrocellulose, 20 % of plasticizer such as nitroglycerin, .6% of ethyl centralite, and .4 % graphite. Hamilton also discloses the use of acetyl triethyl citrate with other gun type propellants. (col. 5 and 6).

Neidert et al teaches the use of buNENA as an energetic plasticizer from nitrocellulose that is equivalent to nitroglycerin and can also be used with nitroglycerin (col. 3, lines 8-30).

Manning teaches that it is known to use 12.6 % nitrocellulose and also mixtures of nitrocellulose of 12.6 % and 13.35 % (see abstract). Manning additionally discloses the use of additive such as graphite, potassium sulfate, and Candelilla wax with gun propellants (see example A).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the acetyl triethyl citrate with the first gun propellant as

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taught by Hamilton since Hamilton suggests that is useful in other gun propellants. It is obvious to use buNENa since Neidert suggests that it is a known plasticizer for nitrocellulose and also shows it equivalence to nitroglycerin which is the plasticizer used in Hamilton. It is also obvious to use varied amount of nitrogen content in nitrocellulose and to use mixtures of the different amounts since Manning suggests that it is useful in gun propellants and also to use the various additives suggested by Manning. It would have been obvious to vary the parameters of the propellant to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

***Conclusion***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aileen B. Felton whose telephone number is 571.272.6875. The examiner can normally be reached on Monday-Friday 6:30-4:00, except alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571.272.1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Aileen Felton*  
AILEEN FELTON  
PRIMARY EXAMINER